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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/887,767	06/21/2001	Whonchee Lee	10829851US2	9072

25096 7590 04/23/2002

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EXAMINER

GRANT, ALVIN J

ART UNIT	PAPER NUMBER
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3723

DATE MAILED: 04/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/887,767

Applicant(s)

LEE ET AL.

Examiner

Alvin J Grant

Art Unit

3723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-71 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-71 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

**Claims 1-7, 14-26, 31-59, 61-69 and 71** are rejected under 35 U.S.C 102(a) as being anticipated by Miller et al. '309 B1.

Miller et al. discloses a method for processing a microelectronic substrate comprising: disposing an electrolytic fluid adjacent to a conductive material of the microelectronic substrate, the material having a first surface in the in the first plane with a recess extending transverse thereto, the recess is bounded by a second surface in a second plane; a conductive material having a corner between the first and second surfaces; the removal of a least a part of the conductive and nonconductive material from the corner after disposing an oxide layer on the conductive material, disposing a nitride layer on the oxide layer and removing at least a part of the nitride layer and part of the oxide layer to expose the corner of the conductive material; exposing an oxidized portion of the conductive material to a chemical etchant

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 8-13, 27-30, 60 and 70** are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al.

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Miller et al. is disclosed above. Miller et al does a not disclose an electrolytic solution consisting of water, hydrochloric acid and hydrofluoric acid in the proportion of 500:1:1, nor does it disclose the specific characteristics of the electrical power. The specific compositions of the electrolyte and electrical power are a matter of obvious engineering design choice to one having ordinary skill in the art at the time the invention was made since the applicant does not state any advantage the compositions have over the prior art, and it appears that the applicant's invention would function equally as well with the electrolytic and electrical compositions disclosed by Miller et al.

Also, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the chemical composition of the electrolytic solution of water, hydrochloric acid and hydrofluoric acid in the proportion of 500:1:1; and supplied electricity with the characteristics of 10 volt, 15 Volts (RMS); 12 Volts A/C; frequency of 60 Hz. to the Miller apparatus, since it has been held to be within the general skill of a worker in the art to select known materials on the basis of their suitability for the intended use as a matter of obvious design choice (In re Leshin, 125 USPQ 416), and since any known chemical and electrical inputs which are capable of removing the material from the substrate would be appropriate.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Miller et al., U.S. Patent No.: 6,287,974 B1

Adams et al., S.S. Patent No.: 6,143,155

Lunac et al., U.S. Patent No.: 6,117,781

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alvin J Grant whose telephone number is (703) 305-3315. The examiner can normally be reached on Mon.-Fri 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on (703) 308-2687. The fax phone numbers for the organization where this

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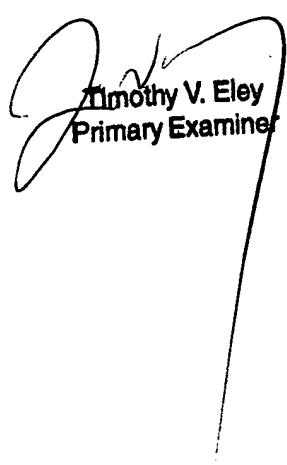
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application or proceeding is assigned are (703) 305-3579 for regular communications and (703) 305-3588 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1184.

Alvin J Grant  
Examiner  
Art Unit 3723

ajg  
April 18, 2002



Timothy V. Eley  
Primary Examiner